

What is claimed is

1. An injection molding with at least one surface
which has self-cleaning properties,
5 wherein
the surface has at least one securely anchored
layer of microparticles which form elevations.
2. The injection molding as claimed in claim 1,
10 wherein
the elevations have an average height of from 20
nm to 25 μm and an average separation of from 20
nm to 25 μm .
- 15 3. The injection molding as claimed in claim 1 or 2,
wherein
the elevations have an average height of from 50
nm to 4 μm and/or an average separation of from 50
nm to 4 μm .
- 20 4. The injection molding as claimed in any of claims
1 to 3,
wherein
the actual elevations formed by the particles have
25 an aspect ratio of from 0.3 to 0.9 .
5. The injection molding as claimed in any of claims
1 to 4,
wherein
30 the microparticles are nanostructured
microparticles which have a fine structure with
elevations with an aspect ratio greater than 1.
6. The injection molding as claimed in any of claims
35 to 5,
wherein
the microparticles have been selected from the
group consisting of particles of silicates,

minerals, metal oxides, metal powders, silicas, pigments, and polymers.

- 5 7. The injection molding as claimed in any of claims 1 to 6,
wherein
the microparticles have been selected from the group consisting of particles of fumed silicas, precipitated silicas, aluminum oxide, mixed
10 oxides, doped silicates, titanium dioxide, and pulverulent polymers.
- 15 8. The injection molding as claimed in any of claims 1 to 7,
wherein
the microparticles have hydrophobic properties.
- 20 9. The injection molding as claimed in any of claims 1 to 8,
wherein
the injection molding itself comprises a material selected from the group consisting of polycarbonates, polyoxymethylenes, poly(meth)-
acrylates, polyamides, polyvinyl chloride,
25 polyethylenes, polypropylenes, aliphatic linear or branched polyalkenes, cyclic polyalkenes, polystyrenes, polyesters, polyether sulfones, polyacrylonitrile, polyalkylene terephthalates, poly(vinylidene fluoride), poly(hexafluoro-
30 propylene), poly(perfluoropropylene oxide), poly(fluoroalkyl acrylate), poly(fluoroalkyl methacrylate), poly(vinyl perfluoroalkyl ether), or comprises other polymers made from perfluoroalkoxy compounds, poly(isobutene), poly(4-methyl-
35 1-pentene), polynorbornene in the form of homo- or copolymer, or else a mixture of these.
10. The injection molding as claimed in any of claims 1 to 9,

wherein

the impressed particles have been anchored with from 10 to 90% of their average particle diameter in the surface.

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11. The injection molding as claimed in any of claims 1 to 10,

wherein

10 the microparticles have an average particle size (diameter) of from 0.02 to 100 μm .

12. A process for producing injection moldings as claimed in any of claims 1 to 11 with at least one surface which has self-cleaning properties and has elevations formed by microparticles, by injection molding,

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which comprises

20 applying microparticles to the injection mold prior to an injection-molding step and then carrying out an injection-molding step in which the microparticles are pressed into the surface of the injection molding.

13. The process as claimed in claim 12,

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wherein

at least some of the impressed particles are impressed into the injection molding only to the extent of not more than 90% of their diameter.

30 14. The process as claimed in claim 12 or 13,

wherein

35 use is made, for the injection-molding process, of a polymer based on polycarbonates, on polyoxymethylenes, on poly(meth)acrylates, on polyamides, on polyvinyl chloride, on polyethylenes, on polypropylenes, on aliphatic linear or branched polyalkenes, on cyclic polyalkenes, on polystyrenes, on polyesters, on polyether sulfones, on polyacrylonitrile, on polyalkylene

terephthalates, on poly(vinylidene fluoride), on
poly(hexafluoropropylene), on poly(perfluoro-
propylene oxide), on poly(fluoroalkyl acrylate),
on poly(fluoroalkyl methacrylate), on poly(vinyl
5 perfluoroalkyl ether), or of other polymers made
from perfluoroalkoxy compounds, poly(isobutene),
poly(4-methyl-1-pentene), acrylonitrile-butadiene-
styrene terpolymer (ABS), polynorbornene in the
form of homo- or copolymer, or else a mixture of
10 these.

15. The process as claimed in any least one of claims
12 to 14,
wherein
15 the injection mold is a mold needed for the
production of conventional injection moldings.

16. The process as claimed in any of claims 12 to 15,
where
20 the microparticles are applied to the injection
mold by spray-application.

17. The process as claimed in claim 16,
wherein
25 the microparticles are applied to the injection
mold by applying, to the injection mold, a
suspension which comprises hydrophobic particles
and comprises a solvent, and then evaporating the
solvent.

30 18. The process as claimed in claim 16,
wherein
the microparticles are applied to the injection
mold by applying an aerosol which comprises
35 hydrophobic particles and a propellant gas.

19. The process as claimed in at least one of claims
12 to 18,
wherein

the injection-molding process is carried out using a pressure greater than 40 bar.

- 5 20. The process as claimed in at least one of claims 12 to 19,
 wherein
 the microparticles used have an average particle diameter of from 0.2 to 100 μm .
- 10 21. The process as claimed in at least one of claims 12 to 20,
 wherein
 use is made of microparticles selected from the group consisting of silicates, minerals, metal
15 oxides, metal powders, silicas, pigments, and polymers.
22. The process as claimed in at least one of claims 12 to 21,
20 wherein
 the microparticles used have hydrophobic properties.
23. The process as claimed in at least one of claims 12 to 22,
25 wherein
 the microparticles have hydrophobic properties by virtue of treatment with a suitable compound.
- 30 24. The process as claimed in claim 23,
 wherein
 the microparticles have been provided with hydrophobic properties prior to or after bonding to the surface of the injection molding.
- 35 25. A molding with a surface which has self-cleaning properties and has surface structures with elevations, produced by a process as claimed in any of claims 12 to 24.

26. The molding as claimed in claim 25, selected from
the group consisting of vessels, lampshades, bins,
storage vessels, drums, dishes, measuring beakers,
5 funnels, tanks, and housing parts.